

BULLETIN NO. 36

GOVERNMENT OF THE PROVINCE OF SASKATCHEWAN
DEPARTMENT OF AGRICULTURE
LIVE STOCK BRANCH

SHEEP IN SASKATCHEWAN

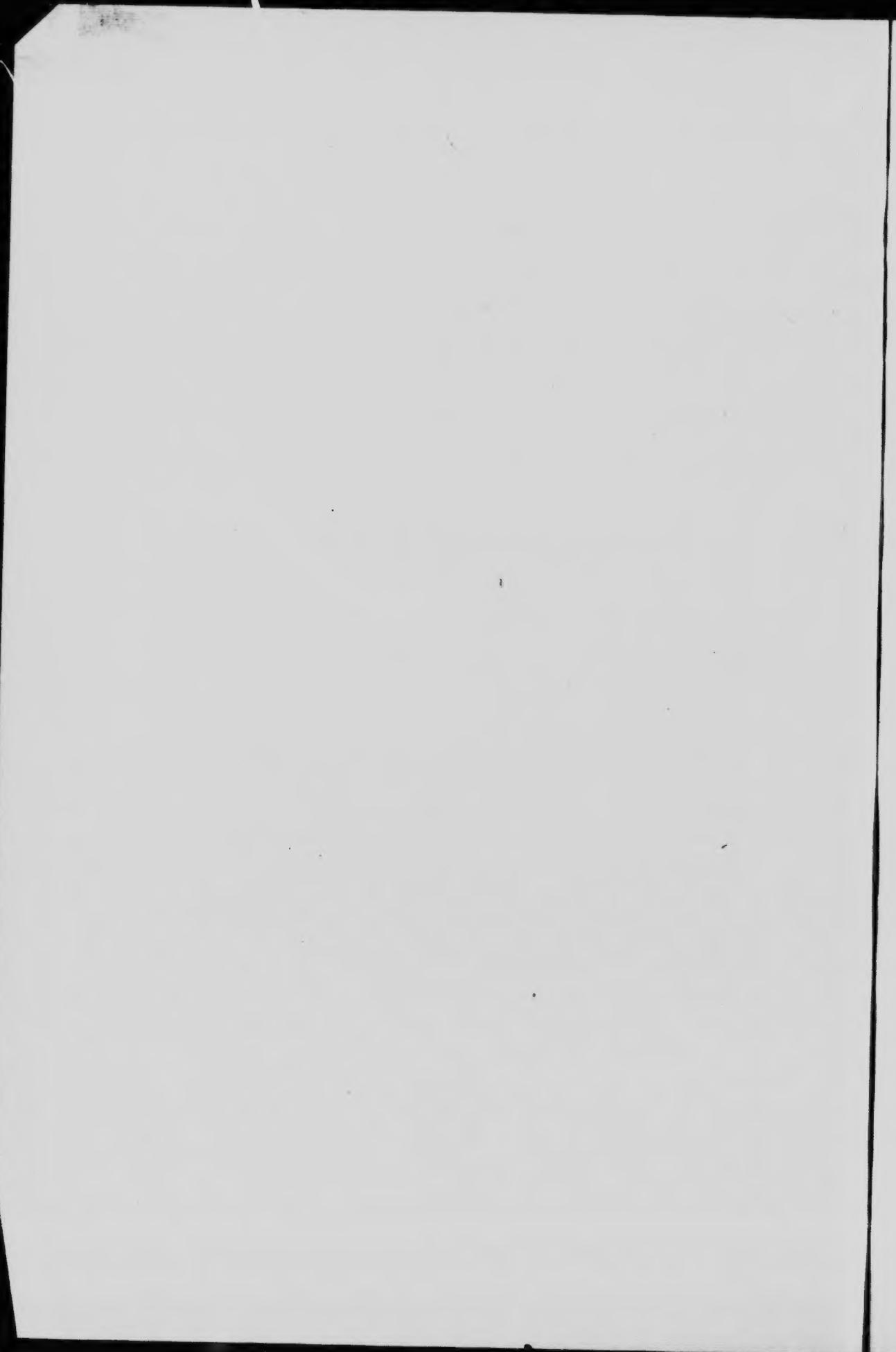
A BULLETIN FOR BEGINNERS
BY
J. COCHRANE SMITH, B.S.A.



*Published by direction of
The Hon. W. R. Motherwell, Minister of Agriculture.*

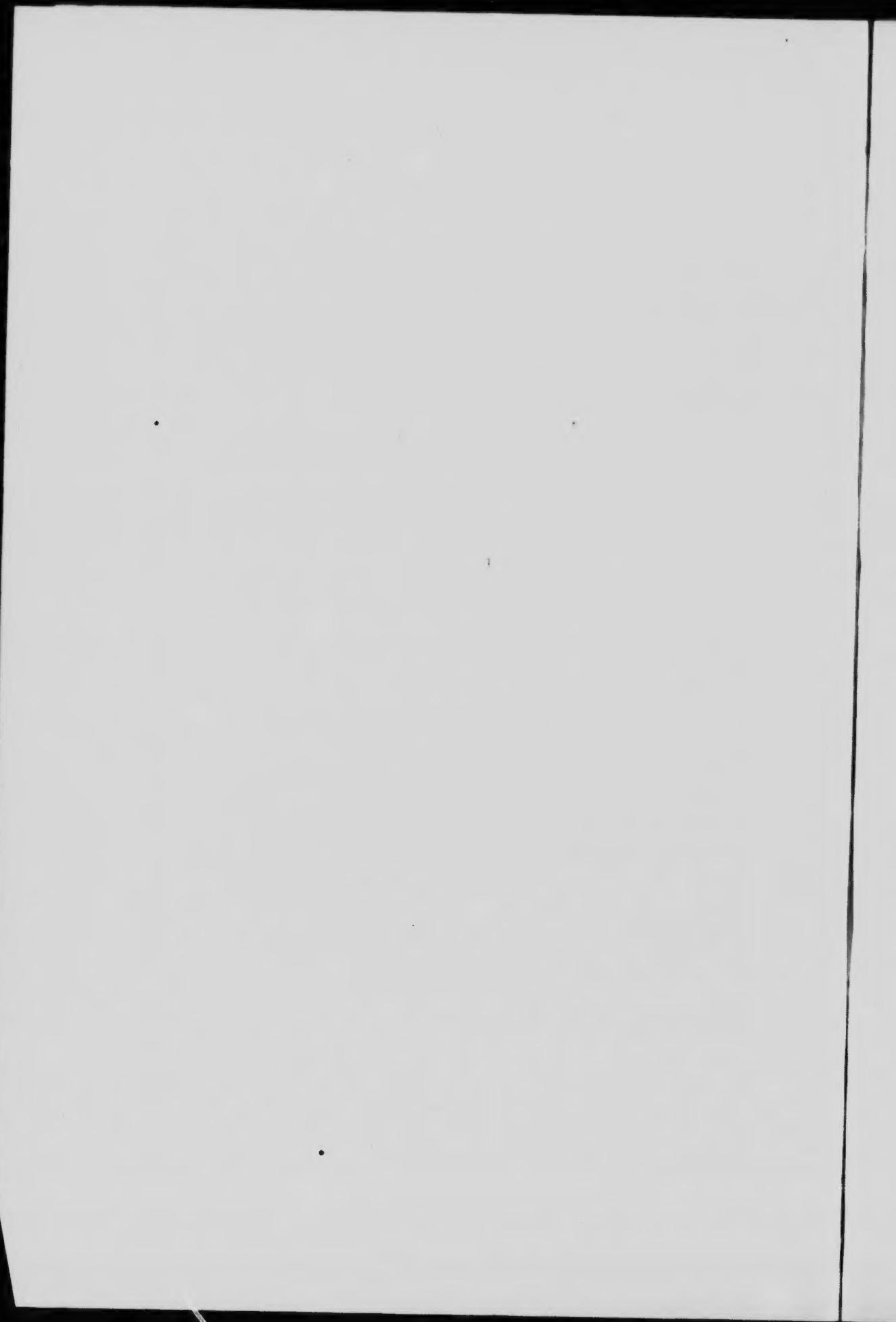


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GOVERNMENT OF THE PROVINCE OF SASKATCHEWAN,
DEPARTMENT OF AGRICULTURE.

DEPARTMENT OF AGRICULTURE,
REGINA, October 15, 1913.

HON. W. R. MOTHERWELL,
Minister of Agriculture.

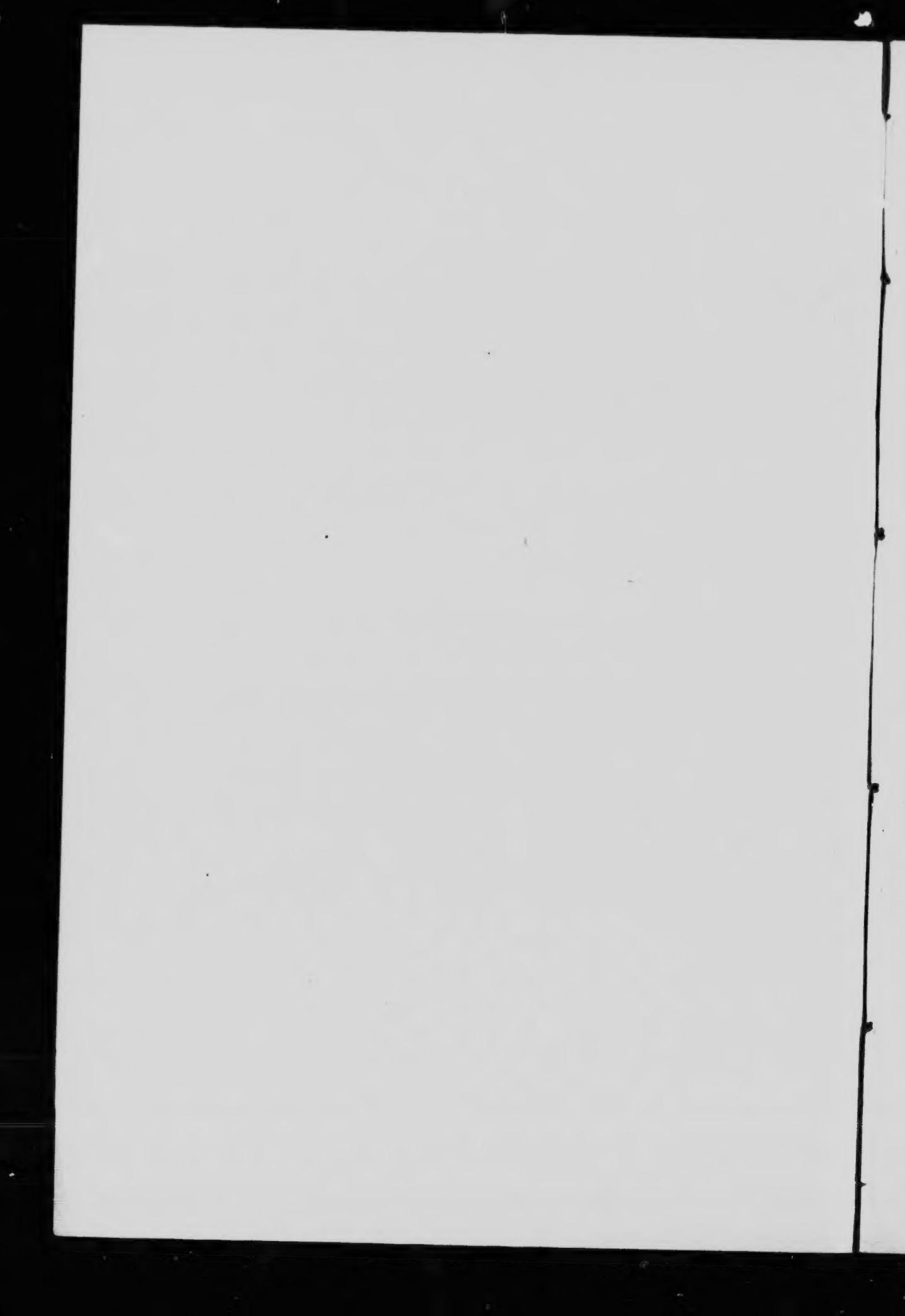
SIR,—

Herewith I beg to transmit Bulletin No. 36, dealing with sheep in Saskatchewan from the standpoint of the small farmer who is considering engaging in this branch of live stock production for the first time. This bulletin has been prepared by Mr. J. C. Smith, B.S.A., Live Stock Commissioner in your department. It is intended only to carry the beginner to the end of his first year's experience with sheep. A companion bulletin, practically the complement of this one, discussing some points in greater detail and also dealing with matters such as feeding for market, suitable buildings, breeds adapted to Saskatchewan, etc., suitably illustrated, is nearing completion.

I beg to recommend that this bulletin be approved and ordered published.

Yours faithfully,

A. F. MANTLE,
Deputy Minister.



SHEEP IN SASKATCHEWAN.

In 1910 statistics showed that there were 164,855 sheep in the Province of Saskatchewan; in 1912 there were only 128,198, or a decrease of 52,657 in two years' time. It can be readily understood that the breaking up of the range lands and the dispersal of ranch flocks is largely responsible for this decrease, but there is no sufficient reason why these sheep should not have been purchased by Saskatchewan farmers and thus remained in the province. It has been uncontestedly proven that this province is well suited for sheep raising; in fact, far better suited than a number of areas on the North American continent which clear several million dollars annually out of sheep. In Saskatchewan we are practically free from intestinal parasites, from foot-rot and from the majority of contagious and infectious diseases which are so destructive to the ovine race. We have a favourable soil and climate, abundance of a class of feed upon which sheep thrive profitably, and which is utilised by no other class of farm animal, as well as a multitude of other favourable conditions, all of which point to profit in sheep. The same conditions prevail over the major portion of the Dominion, and yet, in the majority of sections sheep keeping is on the decrease rather than the increase and the Province of Saskatchewan is no exception.

It is the purpose of this bulletin, in some slight degree at least, to acquaint the man on the land who has not had previous experience with this class of stock and who wishes to start into and make a success of mixed farming with sheep as one class of live stock, with the ways and means of selecting, stabling and caring for a flock of sheep all the year round, including such important seasons as those of breeding and lambing. It can readily be understood that a bulletin of this nature is necessarily as condensed as possible and that there are a great many things of more than probable interest and possible use in connection with the raising and keeping of sheep that must be left unsaid. However, if those who take time and patience to peruse the following pages obtain a rough outline of the methods employed in keeping sheep in Saskatchewan, in order to insure a reasonable measure of profit and success, its object will have been attained. The standpoint from which the question is approached is that of the small farmer, and as in the Dominion today there is a good demand for both mutton and wool, the remarks as to selection, etc., are based upon the "dual purpose" sheep, if it may be so called, without reference to the specialised work of wool production as related to the Merino families.

Reasons for Keeping Sheep.—The first question that the man who proposes going into mixed farming will ask himself is, What class of stock shall I keep? and if some one suggests sheep, the next query will be Why?

In general, sheep should be kept for the following reasons:

1. A farmer can start with the nucleus of a good flock of sheep on a very limited amount of capital. Two hundred dollars will put him in possession of a flock that is large enough and valuable enough for any beginner to commence with, and which will develop and increase in proportion as do the owner's knowledge of and interest in it.

2. Sheep do not require elaborate buildings, a very plain, easily erected, cheap shed will do for them, especially if well lighted and ventilated and properly situated and planned.

3. Sheep will produce two crops in a year, crops that are always in demand, wool and lambs, and the money obtained for the first product is most acceptable to the average farmer in midsummer, whilst if early lambs are raised they can be disposed of in time to obtain cash to pay the store bills through harvest and threshing.

4. Sheep do not require much labour, but they *do* require attention. If properly and carefully attended to, and *inspected daily*, the actual labour in connection with them will be proportionately less than with any other animal on the farm.

5. Sheep assist the farmer to keep his farm clean by destroying weeds. There are three hundred different weeds and grasses known to Canada, and of these sheep will eat two hundred and sixty. Horses and cattle eat only about seventy-five, so that sheep are entitled to attention on this score alone.

6. Sheep will thrive on a class of feed that cannot be properly or profitably disposed of in any other way. They will clean up the fence corners, they can be penned on the patches of wild or unbreakable land and kept inside proper fences with little or no difficulty.

7. They are invaluable upon the summerfallows, not only to keep down weeds, but on account of the fact that they pack and fertilise the land, so much so that they have been characterised as having the "Golden Hoof."

In short, the reasons for keeping sheep are—small outlay, quick returns, cheap upkeep, little labour, inexpensive buildings, low cost of feed, assistance in weed destruction and the fact that there is a constant demand for their products. The farmer should take all these into consideration and include sheep in his plans when going into mixed farming.

GENERAL INFORMATION.

Handling of Sheep.—One of the first requisites of a good shepherd is to know how to handle sheep, and it is easy to tell the inexperienced man by the way in which he catches and holds these animals.

Sheep Must Never be Caught or Held by the Wool.—The wool of the sheep occupies the same relative position to that animal as the hair of a person does to a human being, and the sensations experienced by the luckless sheep when caught by the wool attached to some tender portion of the body are better imagined than described. Sheep that are killed after being maltreated in this way show discoloured patches of bruised flesh and ruptured blood cells wherever the wool has been grasped, and any one who sees the carcass of a sheep which has suffered from rude handling will learn a valuable object lesson. There are two places to catch a sheep: The one is under the chin, or by the lower jaw, but not by the wool at that point; the other is by the hock or gambrel joint. To hold a sheep it is simply necessary to place the hand under the lower jaw to prevent it from going forward.

The correct way to hold a sheep is to stand or kneel on the left side with the left hand under the jaw and the right hand free. If the animal attempts to move back, the right arm should be placed across the back



1 year old



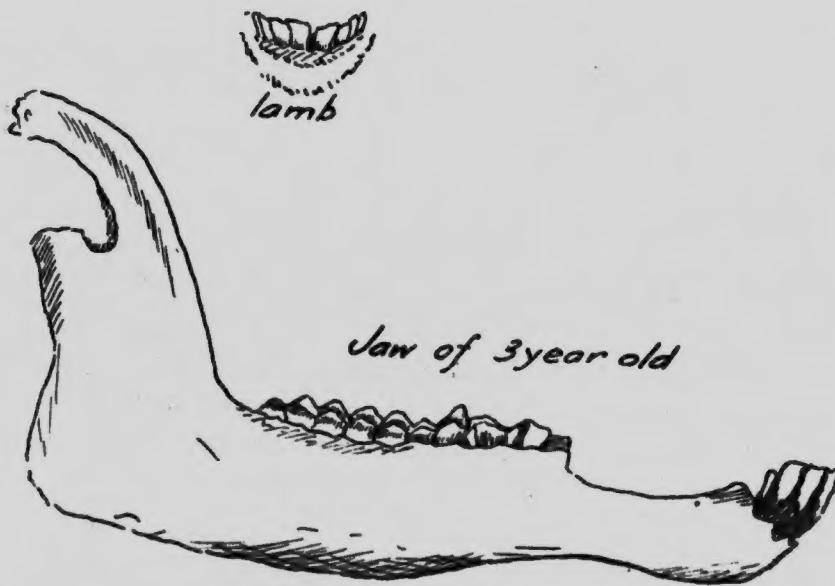
2 year old



3 year old



4 year old
(full mouth)



Jaw of 3 year old

of the thighs. Pulling the head or wool will only induce resistance. If a shepherd's crook is used it should always be inserted above the gambrel joint if possible, as it is not then liable to injure the limb. To catch a single sheep out of a flock it is simply necessary to crowd the animals in some corner of the pen, and then when the efforts of the selected sheep are hampered by the crowding of the others, to catch it by the hind leg at the joint with the right hand and then swing the left hand round under the jaw. To hold a sheep still for any time it should be turned up in a sitting posture with the back against the knees and the head held easily over the left knee by means of a left hand grip on the lower jaw.

Sheep will struggle fiercely if their legs are tied or held but seem to accept the inevitable when their legs are free and off the ground. Fat or old sheep may take injury if kept turned up too long, especially if the posture in which they are kept is inclined to bring the weight of the intestines on the back.

How to Tell the Age of Sheep.—The age of sheep, as that of horses and cattle, is most easily learned by inspection of the teeth. Sheep have no incisor or front teeth in the upper jaw, the prehensile part of which consists of a hard cartilaginous pad. It should be remembered that the condition of the teeth depends to some extent upon the condition of the animal and the kind of feed it has been receiving. Sheep in their lifetime have two sets of teeth—temporary and permanent. For our purpose it will only be necessary to deal with the latter. These are larger, stronger and usually yellower coloured than the temporary teeth. The front or incisor teeth are those by which the age is determined. In general, the appearance of the first large pair of incisors (Fig. 1) indicate that the animal is from fourteen to sixteen months of age. The first pair of incisors are situated side by side in the front centre of the lower jaw.

The appearance of the second pair of incisors (Fig. 2) indicates that the animal is from twenty-four to twenty-eight months old. The second incisors are situated one on each side of the first incisor pair.

The appearance of the third pair of incisors (Fig. 3) show that the animal is from thirty-six to thirty-eight months of age. These are situated one on each side of the first four incisors already mentioned.

The appearance of the fourth and last incisors shows that the animal is, roughly speaking, four years old. The sheep is then said to have a full mouth, as it has only eight incisor teeth in all, and after these have appeared the age of the animal can only be arrived at in a general way. As the animal becomes older, the teeth become narrower, generally discoloured, and the space between them increases. Ewes which have lost any of the incisor teeth should not be purchased for breeding purposes at all.

ESTABLISHING A FARM FLOCK.

What Class to Buy, Where and When.—For the average Saskatchewan farmer the purchasing of a pure bred flock involves too great an expenditure, so that it will only be necessary to deal briefly with this question. For the man who can afford purebreds the best advice that can be given to him is to select one of the Down breeds, in which are included the Oxford, Hampshire, Shropshire, Suffolk, Southdown and Dorset Down. Of the long wool breeds the Lincoln, Leicester and Cotswold have all admirers, but are scarcely as hardy under our provincial conditions as are the

representatives of the Down breeds. They are, however, larger sheep, possessing great width of back and loin, and are invaluable for crossing purposes on our native stock, especially from a mutton point of view. Representatives of the Shropshire, Oxford, Suffolk, Southdown and Leicester breeds may be obtained provincially or in the west, whilst those of the other breeds are to be found in Ontario and Quebec. Apart from the wisdom of patronising home industries, where possible, western bred sheep should be obtained because they thrive better than imported animals, which, especially in the hands of a beginner, are more liable to suffer from disease or unfavourable surrounding conditions until they become thoroughly acclimated. Average males of these breeds will cost from \$20 to \$40 according to age and quality, and females from \$20 to \$30. With regard to grades, where it is possible to obtain them these should be bought from some farm raised flock, but as this supply is extremely limited the majority of our farmers will have to select their foundation stock from the range. From Swift Current to Maple Creek, along the main line of the Canadian Pacific Railway there are several sheep ranches from which such animals may be obtained. These range ewes, though smaller than their farm raised kindred, are extremely hardy, are more gregarious, and, when crossed with good pure bred sires, have given amazing results. It is not advisable for a farmer who is not acquainted with sheep to purchase these himself, nor should he buy them by the bunch. The ewes should be individually selected and should be of uniform type and age. In passing it might be mentioned that since 1910 The Saskatchewan Sheep Breeders' Association have been supplying these ewes to many farmers throughout the province and where they have had good care and attention they have in every case proven satisfactory.

When to Buy.—Probably the best time to purchase is toward the latter end of the month of June, as the majority of animals both on the farm and the range are shorn by that time, and this is a desirable condition for several reasons.

First, because it is far easier to detect defects of conformation when the fleece is off.

Second, because sheep are more free from vermin after shearing and also are usually dipped after that process.

Third, a far greater number can be shipped as a carload and will travel in greater comfort and with less risk of loss from heat.

If the animals are not dipped the purchaser should insist on this being done, as it is most probable that the vendor has the conveniences at hand and sheep will thrive far better after dipping.

In purchasing ewes which have lambed, when the lambs are not also being taken, it is advisable to purchase immediately after weaning, as it is more easy at that time to pick out the ewes which have raised lambs and whose udders are in good condition. If the ewes and lambs can be seen before weaning, the value of the dams may be more easily determined by the quality of their offspring.

For both sexes the best age to buy is yearlings, or what in sheep parlance are known as shearlings or once shorn sheep. This is especially true in females, as the inexperienced purchaser is not nearly so apt to have barren or spoiled ewes put upon him, and he will have a correspondingly greater period of usefulness from the flock, although possibly a little more trouble at lambing time. It can be readily understood that in selecting a

large bunch, especially of range sheep, the purchaser will not be able to follow the above advice, but the small farmer with limited capital, about to start in sheep, should exercise every precaution to make the venture a success.

SELECTING.

How to Select.—Every man who intends to keep sheep should have some idea at least as to what are the points of an animal which render it either of good or bad conformation, desirable or undesirable. Without going into the judging of sheep to any great extent the following remarks may prove useful : The three great cardinal factors in selection are width, depth and symmetrical uniformity. These can be split up into the various component points that go to make a good sheep, but they are the outstanding features, more especially from a mutton point of view.

Systematic Examination.—In examining sheep with a view to determining their conformation, a regular system should be followed so that no important factor may be missed. The easiest way is to first note the animal from the side, standing a few yards away, in order to determine the general appearance, including strength and evenness of top and underlines, depth of body and general carriage. Then, commencing at the head, to work along the body, taking the neck, shoulder top, shoulder face, brisket, chest, forelegs, back, ribs, loin, rump, leg of mutton, hind legs and feet, in order. After this the condition of the animal and the quality and quantity of fleece should be examined.

In making this examination the hands, kept flat and with the fingers close together, should be used. On no account should the points of the fingers be dug into the fleece.

Conditions Applying to Both Sexes.—The following conditions apply to the selection of both sexes:

The animals should be from one to two years of age, should be of uniform type and of good average size for the breed or class they represent; should be in fair condition, free from any suspicion of contagious or infectious disease and as free as possible from vermin of any kind such as ticks, lice, etc. Condition in both sexes may be determined by the colour of the skin, which should be a rich salmon pink; by the eye, which should be prominent, full and bright and by the fleece which should be oily and elastic, not dry and brittle.

Selection of the Sire.—Let us take the selection of the male into consideration first, and right here it should be said that notwithstanding the fact that the ewes may be grades, the sire *must* be pure bred. "Almost" in this case is of no use, and it matters not how good an individual the grade ram may be or how near he came to eligibility for registration, start right and use a pure bred sire which has the inherited prepotency of unnumbered ancestors to stamp his progeny with the fleece, form and breeding qualities which are so much sought after and which mean dollars and cents to the fortunate owner.

Aside from breed type, the ram must conform to the cardinal points before mentioned and must be deep, wide, low set and uniform—uniform in fleece, form and fleshing with no sharp angles or unsightly hills and hollows in the body conformation, no disproportionately large or small head, no crooked legs, no narrowness here and breadth there but symmetrically uniform throughout. Nature is an artist, the artist, but also a mechanic,

and the mechanic; symmetry spells strength and uniformity utility in all kinds and classes of animals, though care should be taken that symmetry in the sheep is not the result of the shepherd's shears, and that width and depth of body are not produced by fat and fleece.

The ram should conform to the type of the breed he represents and should be both masculine and vigorous. In order to determine what masculinity is, it will only be necessary to study the difference between the head and carriage of the male and female champions in the show yard or, failing that, any virile healthy representatives of the opposite sex and the same breed.

In the male we require strength, ruggedness and breed character. The face should be broad between the eyes, rather short and with a Roman or slightly Roman nose; the eyes full and bright; the crest or neck should be thick, curving and full, showing strength of muscling throughout. The chest should be wide and well let down between the forelegs, which latter should be short, straight and strong, set well apart and well placed under the body, looking as if they had been intended to grow there for the purpose of supporting the body and not stuck on in a hurry or as an afterthought. The pasterns should be straight and upright, not horizontal or broken down as is sometimes seen in overfed, old, disabled or misshapen animals. The fore ribs behind the shoulder should be deep and round, giving large heart girth and ample room for the heart and lungs. The brisket should be prominent and wide. An animal with a front as above described has what is known as strong constitution, pre-eminently necessary in the sire. The back ribs should also be widely sprung and long; the loin should be short, thick, wide and strongly muscled; the rump broad, level and well carried out, not tapering nor sharply sloping. The thighs should be heavily muscled inside and out and the hind legs short, set well apart, straight in hock and upright in pastern. The feet should be of medium size and smooth, free from any signs of roughness or rings. The bone of the legs should be clean and flat and the animal should walk freely and gaily with an active quick step. The fleece should be silky and springy to the touch, with an elastic feel, and the entire body of the animal should be evenly and thickly covered with fleece and flesh. The flesh should be firm and rubbery, not soft and flabby, and should not gather in rolls on any part of the body.

In breeds that are woolled about the head the more complete and dense the covering is the more it is sought after.

To summarise: We must have in the sire, constitution, breed type, masculinity and uniformity throughout in width, depth, flesh and fleece.

Selection of the Ewe.—In selecting the ewe we look for a rather longer face with an entire absence of coarseness or meanness about the head, the forehead broad, the eyes prominent and bright and the face from the eyes to the nostril clean and fine. The neck should be inclined to length and slenderness without any of the muscular thickness noticeable in the male. The body should be deep with well sprung round ribs and should be long in order to give capacity for the unborn lamb. Short ribbed or tucked up ewes should be avoided. The ewe should be wide across the loin and hips and at the pin bones, with legs set well apart. It should not be over fat and should stand on short straight clean limbs well set under the body.

In selecting ewes that have already bred, the buyer should, if possible, turn the animal upon its back and examine the udder which in the dry ewe should be soft and spongy with two well-developed rubber-like teats set well apart and showing in no part of udder or teat any tendency towards hardness, hard lumps or malformation of any sort.

To summarise, the female should show constitution and breed type, should be feminine, should be long, deep, wide and roomy with a uniform covering of fleece and flesh; should have short upright pasterns and straight clean limbs.

SHIPPING POINTERS.

Once the sheep have been purchased the question of shipping arises. As a general rule it is extremely hard to get the regular double-decked cars at points in Saskatchewan. The reason for this is that, though there would possibly be sufficient traffic east to Winnipeg and eastern points, there is little or no freight which can be handled west in them. The common or easiest plan is for the purchaser to either deck the cars himself or hire a carpenter to do so. The lumber and labour will cost from thirteen to sixteen dollars per car according to the season and locality. Ordinary rough lumber and 2 x 6 scantling for cleats and supports will answer the purpose well. It should be borne in mind that few if any points have double deck unloading chutes and on this account it is usually advisable to make adequate preparation ere starting to unload. Both the bottom and the top deck should be barred across so that one can be loaded or unloaded at a time without any danger of the sheep in the other coming out. In loading, care should be taken not to crowd the animals, especially in hot weather. With mature range sheep about 105 head to the deck or 210 to the car is a pretty fair average, with pure breeds about 70 to the deck or 140 to the car is generally sufficient. These figures are for June to October shipping. The average cost for grades from the range districts is about 30 cents per 100 pounds. Exact freight rates are as follows:

Maple Creek to Regina.....	21½ cents per 100 pounds
Maple Creek to Saskatoon.....	29 cents per 100 pounds
Maple Creek to Wolseley.....	24 cents per 100 pounds
Maple Creek to Yorkton.....	32½ cents per 100 pounds
Maple Creek to Prince Albert.....	43½ cents per 100 pounds
(Minimum weight for each car, 20,000 pounds.)	

In cases where sheep have to be shipped in less than carload lots it is advisable with a small number to crate them, as they will give less trouble in this way. With any number over thirty it is advisable to ship at carload rate as the L.C.L. or less carload rate is much higher. If the number of sheep to be shipped is too large to crate and too small to ship as a carload they may be shipped loose, penned in one end of the car, upon the issuance of a permit by the division superintendent. In cases of this kind it is always advisable for shippers on the same line of railroad to combine their shipments and then their respective lots may be unloaded at different stations upon the payment of three dollars for the first stop over and two dollars for each subsequent one. In this case the car must be billed as a full carload from point of shipment to final destination.

GENERAL TREATMENT OF THE BREEDING FLOCK.

The Breeding Flock.--In order to deal properly with the care of sheep it will be necessary to take up as fully as space will permit the treatment of the breeding flock all the year round. To do this we will commence with the summer care of the sheep, presupposing them to have been purchased in June or July.

Summer Feeding.--After the farmer has satisfied himself that his flock is as free from vermin as a thorough dipping will make them he is at liberty to plan his campaign of summer feeding and summer treatment. On the majority of farms at this season of the year the summerfallows will need attention, and, generally speaking, the average farm has far more summerfallow than sheep. It is not advisable, especially in the case of sheep from the range, to turn them out in a heavy rank growth of weeds and volunteer grain and to let them eat their fill, as in the majority of cases digestive troubles, the most common of which are bloating, scouring and inflammation will be sure to occur. The sheep should be kept in a grass paddock or field and given an hour or so in the afternoon on the summerfallow for the first day, gradually lengthening the period until they are left there all day. It should be remembered, however, that after a rain, heavy dew or frost sheep should not be given access to a rank growth or heavy crop of any kind and that is the reason for starting them on new pasture in the afternoon. This is especially the case with animals which are corralled all night and are turned out hungry in the morning, as such are far more liable to eat too much of the juicy feed and thus bring on digestive troubles. For this reason, sheep which are penned all night should receive some dry feed ere being turned out in the morning. Where sheep are allowed to graze on the summerfallow, as should be the case from the time it is ploughed, there will be no such danger to avoid, as they will gradually accustom themselves to the diet. Rough patches of land which cannot be broken, small corners of grass that are not fed over, in fact, any uncultivated stubble or raw prairie is suitable for sheep, and by the use of some posts and a few rods of strong wire netting, or portable hurdles, the farmer can fence such places in with small expenditure of time and labour and thus make something out of what generally brought him no revenue. Patches of land covered with light willow scrub make excellent feeding grounds for sheep even though there should appear to be very little grass, as the sheep relish and will thrive on the harder feed. The sheep pasture, however, should not consist entirely of such feed, for, especially in dry seasons and on the smaller farms, there will come a time toward the latter end of August when feed will be scarce enough and the provident farmer should make other preparations by sowing some green feed for his sheep.

Sheep should at all times have free access to salt. Irregular salting will only tend to disturb the digestive system and is as bad as no salt at all. A trough or box of salt which is so covered as to prevent the sheep walking in it should be kept in the corral and care should be taken that it is amply replenished.

Green Pasture.--Of the summer feeds rape is perhaps the best, but oats, peas and vetches are all good. The same precautions as given for new pasture should be taken in placing sheep on rape, which forms a rich diet and must be treated accordingly.

Care of the Flock.—The flock should be inspected carefully at least once a day and, if possible, by the same attendant. The careful shepherd, especially with a small flock, notes the ways and manners of the individual as well as the genus and is quick to note change. Listlessness, loss of appetite, failure to drink regularly when the rest of the flock do so, lifeless drooping ears, running at the eyes and a thousand and one other things apprise the true shepherd of the fact that all is not right and he is quick to act according to his observations.

PREPARATION FOR BREEDING SEASON.

As the breeding season approaches the flock should be carefully inspected as to its condition.

Flushing Ewes.—In an average year in Saskatchewan the sheep, if well looked after, will be in good, vigorous condition without any further preparation, but where the ewes have been pulled down by their lambs or feed has been scarce it is generally advisable to increase both feed and care during the months of September and October in order to improve the condition of the ewes.

Final Inspection.—About a week or ten days before the ram is to be turned in with the flock the ewes should be carefully inspected and receive their final culling out. Ewes whose udders have been affected in any way, together with those too old or too poor in condition to nourish the foetus throughout the winter, should be prominently earmarked and separated from the breeding flock, as should all lambs. It does not matter how forward the ewe lambs are, it is not advisable to breed them the first season. It is true enough that it may be profitably done once or twice but a continuance of this system reduces both the size and virility of the flock and the general practice cannot be too strongly condemned. Backward or late lambs will not generally breed, especially under natural conditions, and as the natural lambing season is the months of April and May, it can readily be seen that lambs were not intended to take up the duties of motherhood. Ewes being prepared for the breeding season should be allowed plenty of exercise and abundance of roughage, for it should be remembered that the sheep is not naturally a heavy grain eater and is accustomed to utilise large quantities of bulky fodder as its chief means of subsistence.

Tagging or Clipping Out.—At the time the final inspection is made each ewe should be caught and examined as to the soundness of her udder, and it is also necessary to perform the operation known as "tagging" or "clipping out." This consists of clipping off with a sharp pair of shears the dirty, clotted wool from the inside of the thighs and around the exterior organ.

This is especially necessary in sheep that have been feeding on luxuriant pasture as they are apt to be extremely dirty. For this work two men are needed, one to hold the animal in a standing position, the other to use the shears. In the hands of the experienced shepherd three or four bold strokes will complete the operation and thus avoid to a large extent danger of infection to the ram. In some cases old ewes, or ewes which have had trouble during the previous lambing, become extremely foul during the summer. These should be well clipped out and flushed with warm soft water, containing about as much permanganate of potash as will lie on a nickel,

mixed with half a pail of water. The exterior portions may also be washed once or twice with carbolic soap and in some of the milder cases this last operation alone is sometimes sufficient.

Care of the Feet.—At the same time as the clipping out operation is being performed the feet of the ewe or lamb should be noted, and where these are overlong or wearing unevenly this may be remedied with a sharp knife and thus avoid the handling of the pregnant ewe later. The feet should be trimmed as closely as possible without cutting to the quick. If the sheep are taken off damp pasture for this operation the horn will be found to cut much more easily. Where feet become sore for any reason and the skin around the hoof is broken or the hoof itself injured, an application of a mixture of crushed bluestone and calomel or butter of antimony (trichloride of antimony), will be found to be beneficial.

SUMMER TREATMENT OF THE RAM.

Unless in very small flocks, and preferably even then, the ram should be kept separate from the ewe flock. During the summer months he should be kept with a few wethers, lambs or old ewes for company and should be allowed ample exercise. A small grass pen or paddock providing some green feed and fenced with woven wire or portable hurdles with a shed or shade of some sort is all that is necessary. Care should be taken to avoid the putting on of fat which is extremely detrimental from a breeding standpoint besides increasing the tendency towards disease. With rams in low condition, a grain ration up to three-quarters of a pound of either whole oats or oats and bran per hundred pounds of live weight may be fed in conjunction with ample green feed, but in no case should it exceed this amount, and even then it should be gradually led up to. Where two or more rams are kept they may be penned together; but they will need careful watching, especially in a large pen, as they may damage one another seriously.

THE BREEDING SEASON.

Preparation.—Before the breeding season opens rams should be carefully inspected also, and it is as well to bring them to this period fresh and in gaining condition. The feet of the ram should be also trimmed and the clipping out process, modified according to sex, carried out. The ram should be turned up in a sitting posture and the wool around the end of the penis clipped well away. In this province the breeding season occurs in cold frosty weather, and when the wool is left long ice is liable to form, and laceration and consequent disablement will ensue if this precaution is not taken. In both sexes, in breeds which are woolled over the eyes, it is sometimes necessary to clip the wool away so that the animal can see. Where fodder containing spear grass or barley awns is fed, the orifices of the eyes seem to collect these dangerous spikes, and it is just as well to clip the wool around the eyes out on a long slant to minimise this danger. Besides this, in winter these orifices may fill with snow and ice, completely blinding the sheep. A dose of Epsom salts, from four to six ounces per head, is invaluable for cleansing the system of both sexes ere the commencement of breeding operations. A little care and attention just

prior to the opening of the breeding season will go a long way towards ensuring a large, healthy and profitable lamb crop.

The time of the actual commencement of breeding operations should depend almost entirely upon the situation of the flock owner as far as feed and accommodation are concerned. There is little doubt that there is a greater profit in early lambs, but at the same time there is also greater risk. The ewes require fairly warm quarters, constant attention and succulent feed until they can be put out on grass. Unlike the majority of farm animals, the ewe will not milk heavily on a dry diet, however nutritious, and the small farmer should bear this in mind.

The beginner should be content for the first season or so with the later crop, and as the period of gestation in the ewe, or time from breeding to birth, is, roughly speaking, five months, ewes bred from the first of December on, lamb early enough. For early lambs ewes may be bred as soon as they come into season, which is usually during the first fall frosts or early in September, thus bringing the lambs in February.

Methods of Breeding.—Generally speaking, it is not advisable to turn the ram loose with the ewe flock for, although the reproductive powers of this animal are extremely great, yet the breeding season only covers from four to six weeks, and the sire will get lots of exercise without running round. In the case of a vigorous mature sire with only twenty or twenty-five ewes to breed, it may be done, but even then it is not advisable.

Several methods of breeding may be followed, one of which can be especially recommended:

This consists of penning the ewe flock in a small enclosure every night and turning the ram in with them. Ewes that are in season will be served before morning, and when the flock is released the ram should be separated and kept in a shady quiet pen, well away from the ewes, during the daytime.

Inbreeding should never be practised. A mature sire will serve from forty to fifty ewes, a shearling from twenty-five to thirty.

Ewes that are bred should always be marked, and the easiest and most usual method is to keel the breast of the ram. Keel is a coloured chalky powder and this is lamp black, mixed with water and smeared on the breast of the ram between the forelegs, makes this animal an automatic ewe marker. This mixture should be applied fresh daily, and care should be taken not to put it high on the breast of the ram as ewes which are not bred at all will sometimes become marked if this is done. After the ram is smeared the application should not be visible when the animal is standing in a normal position. A good plan is to change the colour each week and thus the shepherd will be able to tell when an animal is rebred and also can form a rough estimate as to the probable lambing time.

Feed.—Both ewes and ram should be well fed and cared for during the breeding season. Oats, or oats and bran, together with good prairie hay, or, where possible, clover or alfalfa, form the best diet. For the ewes the grain ration at this time should not exceed three-quarters of a pound once per day, and for the ram up to one and a half according to size and condition. The flock should have free access to salt, and should have abundance of pure water.

Winter Care of the Pregnant Ewe.—Now comes the time at which the beginner is liable to commit the most errors, and the chief of these is getting the ewes too fat. Over fat ewes will not produce strong, healthy lambs.

and will not rear them well after they are born, so that this state should be avoided. Excess of fat is generally brought about by overfeeding and lack of exercise. Ewes should be fed on abundance of roughage, muscle and bone building food, but after the ram has been removed, unless they are very thin, should receive *no threshed grain at all* until early in March when a light grain ration may be commenced. This is especially the case with ewes off the range which must not be fed grain and must be given ample exercise if a healthy lamb crop is to be expected. For feed, ordinary prairie hay, oat sheaves, fodder corn and roots, preferably turnips, should be fed and they should be given enough space to take lots of exercise and if necessary forced to do so, though by this it is not meant that they should be dogged or chased around the yard. Breeding ewes should have from twelve to fifteen square feet of space when weighing about one hundred and fifty pounds and also about one and one-half feet per head at the trough in order to avoid crowding and the risk of dead lambs. With thin ewes about half a pound of mixed bran and whole oats, and from two to four pounds of succulent feed, such as roots or cabbage, and about the same weight of roughage should be fed daily. Starchy or oily foods must be avoided. The pregnant ewe must be kept under normal conditions, and should on no account be chased or worried if she is to prove profitable to her owner. A mischievous dog will do more harm in five minutes in a flock of in-lamb ewes than the shepherd can undo in twelve months, as even though no apparent damage may be done beyond loss of wind, yet the animals will take fright at the slightest scare and will not settle down to feed for weeks to come. Range ewes are accustomed to being herded by means of a dog, but it must be remembered that it is a trained dog working in trained hands, and pregnant ewes are poor material to train a dog on.

Housing.—The ewes should be housed in a roomy shed which must be kept clean, well bedded and *well ventilated*. It may be common practice to let the sheep shed go uncleansed all winter, but it is poor policy. Nothing is worse for sheep than damp or wet footing. Abundance of clean dry bedding should be used and the building should comply with up-to-date ventilation requirements.

Ventilation is one of the prime factors in the winter care of sheep. The walls and roof of the sheep shed should always be dry, and when the shepherd sees the ewes running at the nose, he had best look to his bedding and double his ventilation. The average temperature of the winter sheep shed should be from 35° to 40° Fahr. in this province, but not higher, and there should be no steam when the animals are turned out in the morning. The general rule for winter housing would be to protect from the wind and keep the feet and fleece dry. Salt should always be kept in the shed in a semi-covered trough and the animals should have free access to pure water. The feet should be carefully watched and, if necessary, pared down ere the ewe gets too heavy in lamb.

Method of Feeding.—Where grain is fed during winter it should on no account be crushed. The digestive system of the sheep is nothing if not thorough and there is no fear of unchewed or undigested grain. No more feed should be fed the animals than they will clean up and both racks and troughs should be thoroughly cleaned out daily. No farm animal is as particular with regard to cleanliness of both feed and water as the sheep, and it is just as well to make bedding of roughage that has

been picked over, as they will never eat it anyway. Flax or flax straw should not be fed pregnant ewes, unless in very small quantities, and then it is not to be recommended. Prairie hay, or hay containing a large proportion of well cured weeds and willow clippings, is greatly relished by sheep, which will pick out the willow before anything else.

A good system of winter feeding is to place as much hay in the racks in the morning as the ewes will clean up in an hour or so. After dinner if they have not access to water, they should be watered and then fed their oat sheaves outside, and about three or four o'clock they may receive their root feed, and a little oat straw or hay should be put in the racks. Care must be taken, even with this system, that the animals clean up the feed offered them within two or three hours of the time it is fed. With ewes in thin condition that require grain, this should be fed in the morning along with the first hay, and should consist of whole oats and bran. If oat straw is fed it should be used as the evening roughage along with the roots. If the farmer has no roots he should remedy the omission and have them next year. Bran is probably the best substitute and a little flax seed, about two ounces per head, may be introduced two or three times a week.

Oat sheaves should be fed uncut, and the riper they are the less the sheep should get. It is preferable to spread these on the ground outside, and if this is done on the same place every day, the sheep will take ample exercise scraping in the straw for the oats that shell out. Frozen oat sheaves should be fed in moderation and should be started upon gradually. These are extremely laxative and should never form more than a minor proportion of the roughage ration. Fodder corn should also be fed uncut outside, but it is also laxative, unless well cured. Roots of all kinds should be sliced, not pulped fine nor thrown in whole. Care should be taken that no irregular lumps are thrown in, as choking may result. If fed unsliced, they should be cut in halves, and even then the older ewes, whose teeth are beginning to go, will not get much from them. Swede turnips are by far the best root feed though mangels, carrots and potatoes are also good. The amount of roots per ewe per day may run as high as five pounds per hundred pounds live weight, this amount being reached when the ewes are about three months gone in lamb, or in February, whilst ewes nursing early lambs may receive from ten to twelve pounds per head per day (after lambing).

Care of Wool.—In winter feeding the fleece of the flock should be kept as clean as possible. To do this, care should be taken that no feed is thrown on their backs, and that the feed racks are so built that it is not possible for the sheep to get under them when feeding. A certain proportion of dirt and chaff is sure to get into the wool in any case, but this amount may be greatly reduced by care.

LAMBING.

Preparation for Lambing.—As the lambing season approaches the vigilance of the shepherd should be increased. One end of the shed or, where possible, an adjoining shed or building, should be thoroughly cleaned and well bedded with short dry straw. In order to avoid trouble later, the shepherd should provide himself with several sets of light panels about four feet square hinged in L shape. These may be set up across the end of the

shed, using the side and end walls as the other two sides of the first pen. If the flock is only a small one a few solid pens may be built in one end of the sheep shed. At this season violent exercise or fright, such as is caused by dog worrying, would be extremely dangerous, so that especial care should be taken that the flock is safely corralled at night. With early lambing, arrangements should be made whereby the shepherd will have a supply of hot water at hand, especially if the flock is a large one, as many a chilled lamb can be revived by immersion in hot water, and thorough after care.

It is not difficult even for the beginner to tell when a ewe is about to lamb. If he has the dates of the first two or three ewes to come in and watches them carefully as their time falls due, he will easily recognise the symptoms. The ewe usually becomes restless and may separate herself from the rest of the flock. She may lie down and rise up frequently and will foreshow by her actions the approaching event. Ewes which are healthy and have been well cared for should have no difficulty in giving birth under ordinary conditions. The shepherd should be on the spot and may, even in normal parturition give valuable assistance by easing away the lamb until the head and shoulders are out. The rest of the body should then come comparatively easily. As soon as the head is well clear, the nostrils and mouth should be wiped clear of any mucous or adhesive material in order to enable the animal to breathe freely. After the lamb is born, the ewe and her offspring should be shut in a small panel pen, as above described, when she will immediately proceed to lick it dry. If the after birth does not come away within four or five hours of lambing, the ewe should be given a pint of warm gruel.

Tagging. —After the ewe has lambed it is general... able to see that the udder is not partially covered by tags of wool. These should be clipped away as the lamb sometimes gets hold of them instead of the teat.

Teaching the Lamb to Suck. —If the lamb does not seem to be able to locate the udder or is weak, it may be taught in the following way: Place the ewe in a sitting posture against the knees with the head over the left knee and then start the milk from the teat with one hand whilst the lamb may be brought to it with the other. The teat should be inserted in the mouth and generally the lamb will commence to suck without delay. In order to do this it is not necessary that the lamb should stand, as it may be laid down and still retain its hold on the teat. It should be afterwards noted whether the lamb helps itself or not, and if not, the operation may be repeated, though as a general rule this is not necessary.

Care of Newborn Lambs. —When the lambing season is in February or March, it is imperative that the lambing shed be kept fairly warm, and if this is not possible, some pen or corner may be protected and warmed so as to give a little added heat. Especially with twins or triplets, which latter sometimes make their appearance, there is danger of the first lamb becoming chilled. To avoid this, it may be folded in a warm, dry blanket until it can be attended to by the mother. Be careful not to smother the lamb when this procedure is followed.

In order to dry the skin of the lamb and at the same time entice the ewe to lick it, some dry bran may be spread over the little animal and rubbed in lightly, much as sawdust is rubbed on a horse's legs to dry them. The ewe will lick at the bran, and the licking helps to start the circulation of the new born animal, and thus sets in motion the body functions.

From eighteen to twenty-four hours after the birth of the lamb the ewe should be milked out. The ewe and lamb should be kept separate from the main body of the flock or with other ewes which have lambed for three or four days or until the little ones have begun to be able to take care of themselves in some slight degree at least.

Hand-raising Lambs.—Lambs whose mothers have died and for whom there is no foster mother, may be raised by hand. An ordinary large nipple, preferably the kind which fits over the neck of a bottle, should be secured and a supply of them kept on hand, for as the lambs grow older their teeth will play havoc with the rubber. A pint bottle should be used and ordinary cow milk diluted with warm water at first and slightly sweetened is the best substitute for ewe milk obtainable. The lambs will soon accustom themselves to this mode of feeding and will thrive well. Care should be taken never to give them sour, cold or nearly cold milk, as nothing is more apt to produce scouring. Both bottle and nipple should be scalded once a day. The milk must be sweet and at first should be diluted with about 15 parts water to 100 of milk. Do not allow the young lamb to take too much. It is a good plan to leave them hungry, although their appetite will develop marvellously in a few days.

Udder Troubles.—The ewes and lambs must be carefully watched for the first few days and when a ewe refuses to let the lamb suck she should be turned over and her udder examined. In cases of this kind prevention is a thousand times better than cure, as the udder is hard to right.

On no account should there be any ice, snow or damp footing left where the freshly lambed ewes can get to it. All such places should be covered with dry straw. The reason for this is, that the udder for the first day or two after lambing, especially in the farm flock, is apt to be more or less inflamed or irritable. The ewe finds on lying on some extremely cold or damp spot that the pain or discomfort is allayed and consequently seeks such places. The sudden change of temperature is apt to produce congestion and later inflammation, garget or any of the various udder troubles which are so difficult to contend with. It is true that under range conditions ewes have access to all sorts of places, but it should be remembered that lambing on the range generally takes place after the snow is gone, and also that range ewes are usually in much lower condition than farm wintered flocks, and thus the blood pressure on the udder, and subsequent chances of disease are greatly lessened. Ewes should be watched carefully, and when one is seen to be off feed or listless the udder should be examined at once.

When the udder is found to have gone wrong the ewe should at once be isolated and the part fomented with water as hot as the shepherd's hands can bear. Care should be taken not to blister, but unless the water is really hot its value will be nullified. If the trouble is advanced and the udder hard and discoloured, a hot poultice made of bran and very hot water, should be applied and fastened firmly to the part. It will sometimes be necessary to tie the legs of the ewe so that she cannot get up in order to keep the poultice in place and it should be renewed as it cools off.

After poulticing, the udder should be greased and kneaded with the hand, not roughly, but gently, and as much milk or fluid extracted from the teats as possible. The aim of the shepherd should be to keep the udder from suppurating and breaking out as if this happens the value of the ewe

as a breeder is usually at an end. The ewe should be kept in as warm a place as is convenient, and should not be exposed to dampness or cold winds. Care should be taken to *isolate* all ewes whose udders have gone wrong and after attending to one whose udder has broken out, or milking out a sick ewe, the shepherd should wash and disinfect his hands ere working with the sound sheep. When the lambs begin to grow older, sore udders are sometimes the result of sharp teeth and the mouths of the youngsters should be examined for pointed or rough incisors which may be at the root of the trouble, and which may be smoothed by rubbing with a thimble or light file.

Ewes lambing on grass will not need so much attention, but care should be taken that they do not get run down, and a little grain during March will help greatly if thin.

A small paddock or portable hurdles should be set up on some high dry knoll, and the same precautions observed as given for early lambs. Generally speaking, for farm flocks, it is advisable to have the ewes under cover for a day or so, at least, owing to the uncertainty of the spring season.

FEED FOR EWES AND LAMBS.

Freshly lambed ewes, unless in poor condition, should receive no threshed grain for the first two or three days after lambing. After the lamb gets big enough to clean out the udder, a little wheat bran may be fed and the quantity gradually increased, but even this with well nourished ewes is not necessary. Good prairie hay, oat sheaves and an abundant supply of roots are better than any grain that can be fed. For the man who wishes to bring early lambs through in good condition, roots are essential, and, as they can be grown anywhere in the province, the only drawback in keeping them will be the necessity of a root cellar, root house, or pit of some kind.

In order to milk well, the ewe which lambs before the grass comes must have succulent food of some kind, such as turnips, carrots or mangels, and should receive abundance of roughage. A heavy grain ration fed to the ewes is apt to produce scours and other digestive troubles among the lambs. Wheat in any form is not good for either ewes or lambs, as it is too fattening and starchy. It may be fed to the ewes as a minor proportion of a light grain ration, but more than that is not advisable for the breeding flock.

Troubles of Young Lambs.—There are several troubles which may afflict young lambs and the more common of these are diarrhoea or scours, constipation, sore eyes and sore lips and mouth.

Diarrhoea, or in fact any digestive trouble in the lamb, is generally the result of improper feeding of the ewe, such as too heavy feed or sudden change of feed. If the lamb has become separated from the ewe for any length of time, it should not be allowed to suck the milk the ewe is carrying, and she should be at least partially milked out ere it is allowed to suck.

Constipation may be cured by reducing the grain ration of the ewe or by a rectal injection of half a cupful of soft warm water which has first been boiled, and to which a little glycerine has been added.

Sore eyes is another form of disease found amongst young lambs, and it is a most distressing sight to see a flock with this affliction from which, if not cared for, they may become totally blind. The remedy,

however, is simple and efficacious, and consists of washing the face clean and smearing with a strong coal tar dip solution, some of which should be allowed to enter the eye itself. If carefully done the cure is certain. Any coal tar dip or byproduct such as Cooper's Fluid, Naphtholeum or Zenoleum will answer the purpose.

Sore Mouth can be cured in the same way. The affected parts should be washed and rubbed with a stiff brush and then any coal tar dip should be applied. If the trouble has spread to the udder of the ewe the same treatment will apply.

Docking and Castration.—These should take place when the lamb is from six to ten days old. The older a lamb gets the more severe, serious and dangerous these operations are. In both cases three things are necessary, absolute cleanliness, sharp instruments and common sense.

Docking.—In order to dock a lamb properly a wooden mallet and sharp chisel are necessary. An attendant sits astride of a log or bench with the lamb's back against his breast and its tail lying along the solid wood. The attendant grips the tail close to the body and pulls the skin of that appendage toward the lamb's body. The operator then locates a joint, which is between two protuberances of the vertebrae and placing the chisel thereon, detaches the tail with a sharp tap of the mallet. When the skin of the tail is drawn up previous to the operation it slips back on being released and not only affords some protection and covering for the end of the bone, but also enables the stump to heal more quickly. With lambs that are over two weeks of age, it is as well to tie a piece of twine tightly around the tail above the point where the cut is to be made. This may be left on for a few hours after the operation and helps to stop bleeding. Some shepherds use a red hot chisel which effectively prevents bleeding. For male lambs the tail should be left from an inch to an inch and a half long and ewes from two to three inches. There is nothing more unsightly than a flock of mature sheep with long tails and there is nothing betrays carelessness on the part of the shepherd as quickly as this neglect. Docked animals look neater and more uniform and have a rounder, fuller appearance of hindquarters, besides being more cleanly.

Castration.—Castration is usually performed at the same time as docking and this, too, is all important. On no account let the grade male go unattended and even with pure breeds, keep only the best and strongest if you wish to establish or maintain your reputation as a shepherd. There is a special lamb emasculator which may be procured, but, as the average beginner does not usually possess such an instrument we will describe the common method.

An attendant is necessary to hold the lamb much in the same position as for docking. With a sharp knife the lower portion—about one-third—of the scrotum or bag is cut off. The testicles are then skinned out, withdrawn one at a time, and the cord severed. In older lambs over three weeks of age, it is well to tie the cord with a piece of silk or fine twine which has been dipped in some disinfectant solution, ere severing the testicle. Late lambs which can be placed on grass usually heal up quickly and without trouble. Where the lambs come earlier it is imperative that the pen be kept clean and dry, and not too warm. Abundance of bedding and ample room for exercise are two very necessary adjuncts to health after castration. If there is any soreness or swelling the second day after the operation the wound should be bathed with carbolic acid

and hot water and again anointed with vaseline. The ewes should not be fed very heavily at this time and care should be taken not to change their feed until the lambs have recovered from the effects of the operation.

SHEARING.

When to Shear.—This brings us up to the time of shearing which should occur soon after all seeding operations are over, from the tenth of June to the first of July. The heavier fed the flock is, and the better condition the animals are in, the earlier they will shear, but as a rule it is not advisable to clip in Saskatchewan until the twentieth of May at the earliest, and range stuff will seldom be ready before that time.

Methods of Shearing.—There are two systems of shearing, the old and the new—the hand and the machine. Whilst the majority of our shepherds are accustomed to the former method, there is much to be said for the latter which is quicker for the novice, easier on the shearer, and gives a more uniform result.

There is no doubt but that the machine feels awkward to the experienced hand shearer, but this can be overcome by practice. Some ranchers discriminate against the machine on account of the fact that it shears so close that the animals are more liable to be chilled in the event of bad weather after shearing. Careful handling will help this and there is ~~an~~ advantage in that there is little or no spoiled fleece resulting from the staple being cut in halves or from double cuts which cause short fibres.

Tying the Wool.—The fleece should be rolled up with the belly wool and loose ends inside, and the cut ends out. Badly tagged or clotted wool should be separated ere the fleece is tied. Care should be taken *not to tie the wool with binder twine*. Pieces of the twine known as sisal or hemp become detached and mixed with the wool, from which it is impossible wholly to separate it. Consisting as it does of vegetable fibre it will not take dye and appears as an unsightly mark in both yarn and cloth, consequently wool buyers will discriminate against it, and the farmer who ties with binder twine will receive a lower price for his wool. Special wool twine can be obtained for the purpose which is either made of close spun jute or, what is better still, of paper.

Packing the Wool.—Wool should always be packed in bags, and the same warning as regards twine should be observed for them also. Wool must not be packed in bran or gunny sacks if the farmer is to find ready and profitable sale for it. Special jute bags from which no fibres can become detached are sold throughout the west and the address of the nearest dealer in these commodities may be obtained by writing to the Live Stock Branch, Department of Agriculture, Regina. Paper lined bags are strongly advocated. Sheep should be dry when shorn and the wool must be kept dry.

In tying wool it is not necessary to compress it into a small bundle, as buyers prefer loosely tied fleeces and in the packing into bags it is generally sufficiently compressed. The bags used are larger than the ordinary grain sack, and it will always pay to have a good set of bags on hand. After the bags are packed full they are sewn up. With large bags it is generally advisable to leave ears or lugs when sewing, in order to facilitate handling.

DIPPING.

Dipping is one of the most important factors in successful sheep keeping and no farmer who keeps sheep should be without conveniences for this work. Sheep should be dipped at least twice a year. They not only thrive better and, in fattening, make greater gains for the amount of food fed, but they are also more healthy and contented, and the farmer who dips regularly is taking the best preventive measure possible against infection from scab or other contagious diseases which may render a farm, or even a district, unfit for the keeping of sheep unless properly looked after.

Sheep should be dipped after shearing, but not too soon after, because the fleece is so short that they retain little or none of the dip, and thus reduce the efficacy of the operation. The first dipping should take place about three weeks after shearing, and at this time the lambs also should be dipped as, if not, any vermin that are left alive on the ewes will congregate on them and they will suffer accordingly. For the first dipping it is generally advisable to use a nonpoisonous dip, preferably one of the coal tar varieties, such as Zenoleum or Cooper's Fluid. These should be mixed as directed, although it is common practice to make the mixture slightly stronger, and, if dipping for scab, it should be twice as strong, as that used under ordinary conditions.

Where possible at all the dip should be mixed with hot water as it not only mixes better with the dip, but has greater penetrative power. The water should be as hot as the operator can comfortably work in. If necessary, the water may be softened by the addition of enough concentrated lye to give it an oily feeling. With a large flock the vat should be so built that the animals are immersed for at least one minute in passing through. As a small flock is generally dipped by hand a smaller vat will serve.

SUMMER FEEDING OF EWES AND LAMBS.

Both ewes and lambs should be kept on good pasture and if this is not possible they should receive an ample complement in the shape of hay or other well cured roughage and a grain ration consisting of whole oats and bran about half and half by volume. It is imperative, whether the lambs are being raised for feeding or breeding purposes, that they should receive no setback if they are to give the most profitable results.

A small amount of grain once a day will always help the growing lamb, which requires an abundance of body building food. As a general rule, lambs are weaned at from ten to twelve weeks old. As they approach this age preparations should be made for weaning. The flock should be turned out on succulent pasture and after they have been there for a few days the ewes should be withdrawn to scanty pasture for a half day and then driven in, and the lambs allowed to clean them out. Heavy milking ewes should be relieved of part of their milk, as even at that age the lambs may gorge themselves. The ewes should be again separated and set away from the lambs until the following morning when the operation may be repeated and again repeated for the last time after from twenty-four to thirty-six hours. It is not easy for the majority of farmers to follow this system, but it is the best for both lambs and ewes. If it is found necessary to separate the ewes from the lambs at one stroke, the same

procedure as outlined for the commencement of the former system should be followed, but the ewes must be placed on very light diet. If on pasture it should be scanty and, for the first day or two, they should only be allowed to feed for half the day. Their udders will need careful watching at this time and the most persistent milkers may have to be relieved once or twice. Some shepherds catch the heavier milkers and rub vinegar into the udder, claiming that it assists in the drying-up process.

COMMON AILMENTS AND DISEASES.

Western Canada is most fortunately free from the majority of diseases which are so destructive to sheep and this immunity is worth more to the agricultural public than can be estimated. Just because this is the case at present, however, there is no need for the sheep farmer to think that such a thing cannot happen. Diseases which, if looked after in time, would prove only trifling matters may devastate a flock if neglected, and the careful shepherd will do well to keep a sharp look out for scab, foot rot, stomach worm or any other of the deadly enemies of sheep, as the fact that they are common here at present is no guarantee that they will not become so. There is no class of farm animal that is so hard to deal with as a sick sheep and none less susceptible to cure. Prevention of disease is the only way to maintain a healthy flock.

If any disease or internal parasite which is not readily recognisable attacks sheep, the owner should at once get in touch with a qualified veterinarian or write, describing symptoms, to the Dominion Health of Animals Branch or the Department of Agriculture, both at Regina.

Digestive Troubles.—It is a well known fact amongst shepherds that a large number of the ailments and diseases which affect sheep are due to, or aggravated by, heavy feeding or the feeding of unsuitable material. For this reason it is advisable to feed a sick animal very lightly.

Bloat is probably the most common of these diseases. It is caused by the rapid fermentation of very succulent green food in the stomach.

It may be cured in the early stages by administering a drench consisting of three to four tablespoonfuls of linseed oil, together with a teaspoonful of ammonia water or turpentine.

Cold water poured upon the distended paunch will also help. In severe cases it is usually necessary to release the gas by making an incision in the paunch. The safest method of doing this is by means of a trocar and canula, but in the absence of these a small bladed knife may be used. The incision should be made on the left side in the centre of the triangle made by the short rib and the point of the hip bone. It is usually as well to remove the wool at the point of incision. If a knife is used the blade should be turned sideways after insertion to permit the free exit of gas. The wound should be carefully disinfected after the operation and smeared with tar to repel flies.

Constipation.—Sometimes when animals are changed from succulent to dry feed, or through the winter months, they may be troubled by excessive constipation. This may be remedied by drenching the animal with from four to six ounces of Epsom salts dissolved in cold water and to which a dessert spoonful of common salt has been added.

Diarrhoea.—This disease is seldom dangerous in mature animals and may generally be prevented by regulation of the quantity and quality

of food fed and by an ever present supply of salt. In lambs, the cause is generally attributable to overfeeding of the ewe. Lambs suffering from scours should receive the following dose daily until recovered: one teaspoonful of linseed oil and five drops of essence of ginger.

Drenching Sheep.—In administering fluid medicines to sheep the following procedure is advisable: Pour the medicine into a long slender-necked bottle by means of a funnel, which, at a pinch, may be made of several ply of stiff paper. Back the sheep into a corner of the shed or pen. Straddle it and, placing the left hand under the lower jaw, raise the mouth just enough to let the medicine run down the throat. Insert the neck of the bottle at one side of the mouth and pour gradually, a little at a time, never pouring in more than the animal can swallow.